Manitoba Agriculture

Guidelines For Estimating
Soybean
Production Costs

nformation Update

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This guide is designed to provide you with planning information and a format for calculating costs of production for a soybean enterprise.

The cash cost inputs associated with growing a crop in Manitoba are substantial. It is extremely important for farm managers to do detailed calculations to select the optimum crop combination that will maximize profits. Detailed planning is also necessary when estimating the amount of operating credit required to finance the inputs.

To estimate a cash flow budget the actual payments on principal and interest may be substituted for the fixed costs. As well, an estimate can be made to cover family living expenses, funds required for capital purchases and cost adjustments made for other enterprises on the farm.

Producers are encouraged to calculate their own costs of production. Each farm, costs and yields differ due to soil type, climatic conditions, and agronomic practices.

Industry Summary

Over the past 5 years soybean acreage in Manitoba has increased from under 1000 acres to over 24,000 acres with average yields of 33 bu/acre.

Soybeans can be grown for either the crushing or edible food market. Soybeans grown for crushing are currently shipped to crushing plants in North Dakota or Minnesota with no concern for hilum colour. Hilums are the place where soybeans are attached to the pod and can be yellow, black, brown or buff in colour. Some companies are contracting yellow (sometimes refereed to as clear) hilum soybean varieties for the human food market if the soybeans meet the buyer standards. Yellow hilum soybeans that do not meet this standard are marketed through the crushing market. This is similar to farmers who are growing barley for the malting industry.

Soybean - Cost of Production Summary

Operating Costs	Cost /Acre	Cost /bushel	Your Cost
1.01 Seed	$38.55	$1.29	
1.02 Fertilizer	$8.40	$0.28	
1.03 Chemicals	$30.00	$1.00	
1.04 Fuel Costs	$9.32	$0.31	
1.05 Repair & Maintenance	$8.00	$0.27	
1.06 Insurance	$14.05	$0.47	
1.07 Miscellaneous	$8.00	$0.27	
1.08 Land Taxes	$6.50	$0.22	
Subtotal Operating	$122.82	$4.09	
1.09 Interest on Operating	$5.37	$0.18	
Total Operating Costs	**$128.19**	**$4.27**	
Fixed Costs			
2. Depreciation			
2.01 Machinery	$20.00	$0.67	
2.02 Storage	$1.90	$0.06	
3. Investment			
3.01 Land	$25.00	$0.83	
3.02 Machinery	$10.00	$0.33	
3.03 Storage	$1.05	$0.04	
Total Fixed Costs	**$57.95**	**$1.93**	
Labour	**$15.00**	**$0.50**	
Total Cost of Production	**$201.14**	**$6.70**	

Estimated yield per acre **30 bushels**

Soybean Cost of Production Worksheet
Assumptions

1. This budget provides a guideline to determine the cost of production for a soybean enterprise.

2. The investment in machinery and equipment was assumed to be $200 per acre. The machinery complement is similar to a grain enterprise.

3. A yield of 30 bushels per acre was assumed.

4. A Land value of $500 per acre was assumed.

A. Operating Costs				**Your Farm**
1.01 Seed				
		200,000	plants/acre	_____
	÷	3,000	seeds/lb	_____
	x	1.10	emergence factor	_____
	=	73	seeding rate lbs/acre	_____
	x	$0.35	seed cost ($/lb)	_____
	+	$10.00	inoculate	_____
	+	$3.00	seed treatment	_____
	=	**$38.55**	**$ /acre**	_____
1.02 Fertilizer				
Nitrogen		0	lbs/acre	_____
	x	$0.27	cost/lb	_____
	=	$0.00	$ /acre	_____

P2O5		30	lbs/acre	
	x	$0.28	cost/lb	
	=	$8.40	$ /acre	
K2O		0	lbs/acre	
	x	$0.135	cost/lb	
	=	$0.00	$ /acre	
Sulfur		0	lbs/acre	
	x	$0.23	cost/lb	
	=	$0.00	$ /acre	
Zinc		0	lbs/acre	
	x	$1.50	cost/lb	
	=	$0.00	$ /acre	
Total	**=**	**$8.40**	**$ /acre**	

1.03 Chemicals

	$25.00	pre plant incorporated	
+	$5.00	post emergent	
=	**$30.00**	**$ /acre**	

1.04 Fuel Costs

a) Field Fuel Costs

Operation	Times Over	Width feet	Speed mph	Fuel $/ac.	
Cultivate	1	24	5	1.54	
Spray	1	90	7	0.29	
Cultivate	2	48	6	1.28	
Plant	1	24	5	1.54	
Spray	1	90	7	0.29	
Combine	1	24	4	1.92	
Total				**$6.86**	

b) Truck Fuel Costs - from field to storage & market

	30	gross yield bu/acre	
=	180	total tons	
÷	5	truck capacity (tons)	
=	36	trips	
x	5	miles dist/trip	
=	180	total miles	
÷	2	fuel consumption (miles/gal)	
=	409	litres total required fuel	
÷	200	total acres	
=	2.046	litresl/acre	
x	$0.52	fuel cost ($/litre)	
Total =	**$1.06**	**trucking ($ /acre)**	
other fuel costs	**$1.40**	**$ /acre**	
Total =	**$9.32**	**fuel costs ($ /acre)**	

1.05 Repair & Maintenance

	0.04	percentage rate	
x	$200	investment/acre	
=	**$8.00**	**$ /acre**	

1.06 Insurance

	$9.40	crop insurance	_____
+	$4.65	hail insurance	_____
=	**$14.05**	**$ /acre**	_____

1.07 Miscellaneous

=	**$8.00**	**$ /acre**	_____

1.08 Land Taxes

=	**$6.50**	**$ /acre**	_____

1.09 Interest on Operating

	$122.82	subtotal operating	_____
÷	2	average	_____
x	0.0875	interest rate	_____
=	**$5.37**	**$ /acre**	_____

B. Fixed Costs

2. Depreciation

$$\frac{\text{Original Value - Salvage Value}}{\text{Useful Life}}$$

2.01 Machinery

	$200.00	cost/acre	_____
-	$0.00	salvage value	_____
÷	10	useful life	_____
=	**$20.00**	**$ /acre**	_____

2.02 Storage

	$40.00	cost/acre	_____
-	$2.00	salvage value	_____
÷	20	useful life	_____
=	**$1.90**	**$ /acre**	_____

3. Investment

$$\frac{\text{Original Value + Salvage Value}}{2} \times \text{Investment Rate}$$

3.01 Land

	$500.00	cost/acre	_____
x	0.05	% investment rate	_____
=	**$25.00**	**$ /acre**	_____

3.02 Machinery

	$200.00	cost/acre	_____
+	$0.00	salvage value	_____
x	0.05	% investment rate	_____
=	**$10.00**	**$ /acre**	_____

3.03 Storage

	$40.00	cost/acre
+	$2.00	salvage value
÷	2	average
x	0.05	% investment rate
=	**$1.05**	**$ /acre**

C. Labour

	$10.00	$/hour
x	1.5	hours/acre
=	**$15.00**	**$ /acre**

For further information contact your local Manitoba Agriculture office.

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